

We claim:

1 1. A tap-changing assembly for power transformers,
2 comprising:

3 a tap changer having at least one vacuum interrupter
4 open-circuiting upon a tap change and conducting an electric
5 current in an absence of a tap change; and

6 a monitoring device for monitoring timely operation of
7 said vacuum interrupter, said monitoring device comprising:

8 at least one interrogatable surface wave
9 sensor proximal to a conductor in circuit with said vacuum
10 interrupter,

11 an interrogating unit spaced from said vacuum
12 interrupter and transmitting a high-frequency signal to and
13 receiving a high-frequency signal from said sensor, and

14 a monitoring circuit electrically connected
15 to said interrogating unit and responsive to a signal received by
16 said interrogating unit from said sensor for signalling a status
17 of said vacuum interrupter.

1 2. The tap-changing assembly defined in claim 1
2 wherein the tap changer is configured for a polyphase system and
3 each phase is provided with at least one of said vacuum

4 interrupters and each of said vacuum interrupters is provided
5 with a respective one of said surface wave sensors.

1 3. The tap-changing assembly defined in claim 2
2 wherein said vacuum interrupters and surface wave sensors are
3 located in an oil-containing housing of said tap changer and said
4 interrogating unit and monitoring circuit are located in a region
5 of a motor drive for said tap changer.

1 4. The tap-changing assembly defined in claim 2
2 wherein said surface wave sensors are radio-interrogated surface
3 wave sensors and said interrogating unit has an oscillator
4 operating in a frequency range of 100 MHz to 3 GHz and an
5 antenna.

1 5. The tap-changing assembly defined in claim 2,
2 further comprising contacts connected to said monitoring circuit
3 for establishing critical time points for interrogating said
4 sensors.